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Devoted to the interests and advancement of those engaged in school health activities and the service rendered by them

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POLIO PRECAUTIONS

Gamma Globulin — obtained from human blood—gives protection for a few weeks. However, it is in VERY SHORT SUPPLY.

A vaccine is not ready for 1953. But there is hope for the future.

Meanwhile—when polio is around follow these PRECAUTIONS.

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THE JOURNAL OF SCHOOL HEALTH

Devoted to the interests and advancement of school health service and instruction. Your participation by membership is solicited.

Vol. XXIII OCTOBER, 1953 No. 8

HEALTH EDUCATION AT THE COLLEGE LEVEL

With particular reference to a course of study offered at the University of California, Berkeley

W. W. STILES, M.D., M.P.H.; T. C. POLSON, Ph.D.; P. HODGSON, Ph.D.; L. V. POSS, M.A.; and EDITH KRABACH

Need for Health Education

"The extension to all peoples of the benefits of medical, psychological and related knowledge is essential to the fullest attainment of health . . . Informed opinion and active cooperation on the part of the public are of the utmost importance in the improvement of the health of the people." This excerpt from the preamble to the constitution of the World Health Organization succintly describes our need for health education.

Our need for health education is further illustrated by the fact that if existing scientific knowledge were fully utilized, the average length of life would be extended more than 10 years—from about 69 to 80 years! Figures released by the National Office of Vital Statistics indicate that many instances of disease and death in this country are caused by afflictions which might have been controlled by measures already well-known. Moreover, these preventable diseases account for an appreciable extent of morbidity and mortality among young adults who are potentially the most valuable asset of a community.

A solution to this problem of disease control was voiced by Dr. Ruthven at the Third National Conference on Health in Colleges (1948): "I submit as a basic and enduring reality of life that knowledge of present, accepted, scientific facts is a determining factor in the protection and promotion of health and should be made a part of the equipment of every student . . . We should aid our students in adding to their cultural and professional training the knowledge which will aid them to keep well both during their school life and beyond . . . Since we cannot hope to give our students all of the knowledge they will need for the rest of their lives, relative values should be considered and some of the less important offerings should be sacrificed for more adequate instruction in the art of keeping well. In the battle of the curriculum this is an important and long overdue engagement."

Objectives of Health Education

The ultimate objective of health education is that of promoting health and preventing disease. Emphasis on this approach to the health education of college students has been justified by the dictum of Sir Arthur Newsholme, who stated that "preventive medicine should pervade the entire curriculum". Most physicians agree with this point of view, but maintain that the practice of curative medicine should be restricted to those who are professionally trained and qualified. Unfortunately, the teaching of the principles of maintaining health must still be approached with a missionary spirit, for general interest in this subject continues to lag. A crusade for positive health seems visionary and impractical to those whose thinking and acting is centered on the importune needs for remedial medicine.

Another objective of health education for college students is that of developing a social conscience. This objective is also important for professional workers as was indicated in a recent digest of 196 articles on medical education. This digest emphasized that there should be a greater association of medical and health problems with a social philosophy, and that more attention and interest should be devoted to public and community health. Professor Ryle of Oxford University has defined the need as "social medicine", embodying the idea of medicine applied to the service of man as *socius*, as fellow or comrade, with a view of better understanding and more durable assistance of all his main and contributory troubles which are inimical to active health and not merely to removing or alleviating a present pathology. It embodies also the idea of medicine applied in the service of *societas*, or the community of men, with a view to lowering the incidence of all preventable diseases and raising the general level of human fitness."

A third objective of health education is that of integrating individual and community health. The impetus of war, the shrinking of national boundaries, and the quickening of the pace of modern living has necessitated an ever-widening view of health, linking the individual to his "community", whether in the sense of the school, the city, the nation, or the globe. Likewise, the element of time in relation to health problems must be extended to include not only the past and present, but also the immediate and more distant future. Preparation for "normal times" is not enough. Each one of us must be prepared for great social and economic upheavals—for natural and war-caused disasters. Health education is vital to both our military and our civil defense.

One of the immediate objectives of health education is to direct the student's overt behavior and conduct. He should be prepared to render first aid and other emergency medical services, and he should also be trained to carry out measures for his personal hygiene and the sanitation of his environment. But at the same time, he must be made to realize his own limitations in performing such procedures. To apply health information intelligently, the student will need an insight into the structure and functions of the human body in sickness and in health, the choices of proper foods, the avoidance of injurious agents, and the general nature of diseases, their cause, their treatment, and their prevention.

Another immediate objective of health education is to prepare the student to accept his responsibility as an individual and as a group member for action leading to the solution of individual and community health problems. In view of the many and varied appeals for voluntary support of health agencies, he should have an insight into their plans and organization. Because he will soon be a taxpayer and a voter, the student should learn something about official health agencies at the local, state, national, and international administrative levels. As a purchaser of health and medical services, he should learn how to evaluate information about proprietary medicines, medical care plans, services of professional workers, and other health commodities.

Health education is a means of recruiting and orienting students into careers in the various fields of health science. For them, it also serves to bridge the gap between the college curriculum and that of the professional school. Health education at the college level should contribute much to the preparation of students entering other professions, and public services such as law, theology, engineering, education, journalism, business administration, and social welfare.

One of the most important of all objectives in health education is that of developing proper attitudes towards one's self, one's associates, and the scientific method. Students should understand the concept of health as a state of physical, emotional and social well-being. They should eliminate irrational fears, superstitions and aversions in matters of health. They should learn the value of experiment over argument, and perhaps gain some skills in the methods of research. They should become more tolerant of those who are ill or handicapped and become more secure emotionally so that they may live in greater harmony with themselves and others. Students should realize that their own attitudes and behavior have a direct effect on many others.

In the final analysis, health is a basic goal of all education, for the student could hardly achieve any other goal without his health.

A Course of Study Offered at the University of California, Berkeley

In an attempt to fulfill the needs, objectives, and interests of college students in their health education, the University of California at Berkeley has offered a health course of some kind or another since the turn of the century. This course has evolved through the years under the guidance of the faculty of a "Department of Hygiene." The department itself evolved into the "School of Public Health" in 1943. At the present time, there are several courses offered by that School to the general college student, but the one which remains as the basic course is known as "Public Health 5A-B,—Individual and Community Health". One of us (W.W.S.) has been responsible for this course since 1947.

The description of PH 5A-B given in the current catalogue of the School of Public Health is as follows: "A survey of the entire field of public health, including field observations and a consideration of the evolution of disease prevention and control; the social, medical, and economic aspects of sickness, disability and death."

At present the course is open to all university students regardless of major, class, or academic standing. There are no prerequisites for PH 5A, but it is a prerequisite for PH 5B. Although PH 5A-B is voluntary for the vast majority of students, the whole course is required for students majoring in public health and the first half of it (PH 5A) is required for those majoring in physical education. Both halves of the course are offered concurrently each semester and PH 5A is usually offered during the summer session.

Content of the Course

The content of the course is indicated by the following outline. There are 17 major sections and these are sub-divided into 87 topics, each one of which represents a class-period assignment. Topics 1-43 are covered in PH 5A and topics 44-87 in PH 5B.

I. An Introduction to Individual and Community Health
   1. The Need to Control Disease

II. Accidents and Violence
   2. Importance of Accidents and Violence
   3. Hemorrhage and Shock
   4. Asphyxiation and Resuscitation
   5. Bone Injuries and Transportation of the Wounded
   6. Prevention of Traffic Accidents
   7. Prevention of Home Accidents

III. Wound Infections
   8. Soft-tissue Injuries
   9. Living Agents of Disease
   10. Disinfectants and Disinfection
   11. Specific Wound Infections

IV. Contact and Air-borne Diseases
12. General Nature of Contact and Air-borne Diseases
13. Viral Infections: "Colds", Influenza, Infantile Paralysis
14. Viral Infections: Measles, Mumps, Chickenpox
15 Viral Infections: Smallpox
16. Bacterial Infections: Diptheria, Whooping Cough, Meningitis
17 Bacterial Infections caused by Streptococci
18. Bacterial Infections caused by Pneumococci; Pneumonias and other Disorders of the Respiratory System
19. Bacterial Infections: Tuberculosis, Leprosy
20. Fungus Infections: Superficial and Systemic Mycoses

V. General Measures of Disease Control
21. Sources and Transfer of Infections
22. Resistance and Immunity
23. Allergies

VI. Disorders of Nutrition, Digestion and Metabolism
24. Problems of Nutrition
25. Nutritional Disorders Associated with Carbohydrates, Fats, Proteins and Minerals
26. Nutritional Disorders Associated with Vitamins
27. Selection of an Optimal Diet
28. Disorders of the Digestive System
29. Metabolic Disorders

VII. Food Sanitation
30. Food Poisonings
31. Food Processing and Preservation
32. Food Preparation
33. Food Wastes, Nuisances

VIII. Fecal-borne Diseases
34. Bacterial Infections: Typhoid, Paratyphoid, Salmonellosis
35. Bacterial Infections: Bacillary Dysentery (Shigellosis), Cholera
36. Viral Infections: Infectious Hepatitis and Others
37. Protozoal Infections: Amebiasis and Others
38 Helminthic Infections caused by Roundworms (Nematodes)
39. Helminthic Infections caused by Tapeworms (Cestodes) and Flukes (Trematodes)

IX. Water, Sewage and Flies
40. Public Water Supplies
41. Personal Utilization of Water
42. Disposal of Fecal Excrement
43. Flies

X. Insect- and Arthropod-borne Diseases
44. Mosquito-borne Diseases: Malaria
45. Mosquito-borne Diseases: Yellow Fever, Dangue, Encephalitides, Filariasis
46. Mosquitoes and Their Control
47. Gnats and Certain Other Insect Vectors of Disease
48. Louse-borne Diseases
49. Flea-borne Diseases
50. Mite- and Tick-borne Diseases
51. Other Arthropods of Medical Importance
52. Insecticides, Fumigants and Repellents

XI. Animal-borne Diseases
53. Rodent-borne Diseases
54. Rodents and Their Control
55. Animal-borne Diseases Caused by Viruses and Richettsia
56. Animal-borne Diseases Caused by Other Organisms
57. Some Harmful Animals

XII. Environmental and Occupational Diseases
58. Heat and Cold
59. Poisonous Gases

60. Injurious Vapors and Dusts
61 Injurious Liquids and Solids
62. Miscellaneous Occupational Injuries
63. Medical Aspects of Electrical Energy
64. Workmen's Compensation and Rehabilitation

XIII. Socio-Sexual Problems
65. Socio-sexual Problems of Young Adults
66. Venereal Diseases
67. Control of Venereal Diseases
68. Family and Marital Problems
69. Genetics and Heredity

XIV. Maternal and Child Care
70. Pregnancy
71. Childbirth
72. Infant Care
73. The Preschool Child
74. School-age Health Problems
75. Dental Care

XV. Disorders of the Nervous System
76. Disorders of the Special Senses
77. Recognition of Nervous System Disorders
78. Organic Disorders of the Nervous System
79. Drugs Affecting the Nervous System
80. Mental Disorders

XVI. Problems Relating to Medical Care
81. Problems of Later Life
82. Cancers
83. Medical Economics
84. Public Health Agencies
85. The Bookkeeping of Humanity

XVII. The Challenge to Control Disease
86. Careers in the Health Sciences
87. Advances in the Health Sciences

The content of this course has been developed with many specific objectives in mind. A primary consideration is that of preparing the student to participate actively in one way or another in the prevention and control of disease. It is therefore logical to arrange the various diseases into groups according to their principal means of prevention and control. Each of these diseases is considered in a general way in order to reveal the "weak links" in a chain of circumstances which perpetuate the affliction. This approach to the problem is essentially that of applied epidemiology. Having discovered these "weak links", special emphasis is given to the application of practical methods of "breaking" them, thus preventing and controlling disease.

It is desirable to begin with subject matter which is relatively familiar and elementary, taking account of the interests, experience and previous training of students. At the outset of this course, accidental injuries, wound infections, common respiratory diseases and nutrition are presented—topics which are quite interesting and familiar to most students and ones which can be presented at a rather simple level. Subsequent topics are usually of less interest to the beginner, but may become of vital importance as the student

progresses. In general, the outline of this course follows the pattern of student interest previously mentioned. A follow-up of our study of student interests, however, indicates that many of the topics of little concern at the beginning of the course, eventually become those of greatest concern.

Following the principle of beginning with that which is easy and proceeding to that which is more difficult, the topics have been arranged so that biological and social concepts become more and more involved. At first, only one biological variable is considered—man himself—pitted against the relatively simple physical factors in the environment which cause injury. Next, two biological variables are presented—the host and parasite—in a consideration of wound infections, contact and air-borne diseases, and certain infections conveyed by food, water, and bodily wastes. Then three or more biological variables are presented—the host, parasite, and intermediate host or vector—with a consideration of some of the helminth infections and those transmitted by arthropods, rodents and other animals.

At the same time, social concepts are being developed. In the beginning, the topics are largely those concerned with "personal" health, but later the topics are primarily concerned with "public" health. No attempt is made to separate the health problems of the individual from those of his community; on the other hand, a real effort is made to integrate them. A student is naturally most interested in himself and so is apt to relate the problem of accidents almost exclusively to his own self. It is possible, however, to begin the transition from "personal hygiene" to "public health" by mention of the familiar agencies in one's own community concerned with accident prevention. In discussing the contact and air-borne diseases, the student is still most interested in himself and may even suffer the symptoms of every disease he studies. But he soon realizes that his own infections must come from someone else, and thus he takes a somewhat greater interest in his fellowmen. This, too, is a transition from "personal hygiene" to "public health". The concept can be developed further in discussing nutrition by pointing out the mounting problems of inadequate food supplies and over-population throughout the world. Extension of the "public health" concept from the immediate environment to the world as a whole is also made possible by a discussion of the fecal-borne and the insect and animal-borne diseases—many of which are ordinarily considered as exotic diseases. Nevertheless, the student is made to realize that in this day of rapid transportation and communica-

tion, the afflictions of those in remote areas may have a direct effect on the people of this country. Economic and social factors relating to health are mentioned throughout the course, but are emphasized in the discussion of occupational diseases, socio-sexual problems, mental hygiene, and the over-all problems of medical care.

A social and economic problem of every student is the choice of his own career. This course may help some students to choose one of the health fields for his life's endeavor. Accordingly, various groups of professional workers are mentioned in appropriate places throughout the course, but the topic of "Careers in the Health Sciences" is given specific attention in the next-to-the-last session. We have been vitally concerned with the recruitment and guidance of college students into medicine, dentistry, nursing, pharmacy, and public health, and the many related fields of health science. We realize that an over-view course of the kind offered at the University has great potentiality in giving students, especially frustrated, would-be medical students, the kind of direction they need, and therefore are attempting to evaluate this type of health education as a means of objective counseling.

Perhaps the most important of all social concepts can be developed by critically analyzing historical events and projecting them into the future. Realizing that the history of medicine is fundamental to human welfare, we have introduced bits of it throughout our course. Realizing too that this subject is of little interest to the beginner, we have saved a deliberate consideration of it until the last. A more classical arrangement of topics would have been to first present the development of health from a historical standpoint, but we have found that this topic is most effective as a summary.

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TUBERCULOSIS CONTROL IN A TEXAS COLLEGE*

EMMETT F. CAMBRON, *Health Coordinator*
North Texas State College

North Texas State College had its first mass X-ray of students in 1947. Two thousand, two hundred, ninety-seven students and college personnel were X-rayed at that time. Since 1948 the TB X-ray program has been compulsory for students in residence.

MASS TB X-RAY DATA NORTH TEXAS STATE COLLEGE
1947 - 1952

Year	No X-rayed (Students and Personnel)	No. found of minimal, suspicious pathology	No. of positive cases
1947	2,297	30	7
1948	3,364	11	4
1949	4,855	10	2
1950	5,520	97	3
1951	4,125	5	1
1952	3,687	18	0-1

It is felt that the program has been successful due to the educational campaign and detailed planning that preceded the scheduled time for the making of the X-rays. Student organizations have done much toward creating the right background for participation in the program. Much work has been done toward the development of a proper attitude on the part of the students toward their participation.

The Texas State Department of Health has been cooperative in working out suitable dates for having X-rays on the campus. When the dates have been set for the giving of the X-rays, we do these things:

After learning the number of hours that we are alloted for X-raying and being informed that 150 X-rays can be made per hour, we prepare lists of students from our enrollment cards, assigning 30 students for every 15 minutes during the time the X-ray unit is on the campus. Postal cards are addressed to each student assigning him the time (15-minute variations) he is to have his X-ray made. On this card there is information as to where the X-ray will be given, time that he is to report, and instructions concerning cards which will be issued to him.

*Given before a joint session of the Medical Section and Public Health Section of the Texas Tuberculosis Association at the Annual Meeting, Mineral Wells, Texas, April 11, 1953.

Clerks, stampers, alphabetizers, linesmen, and the persons who work at the information desk attend an orientation meeting prior to the giving of the X-rays. Mimeographed instructions are given to each worker, supplementing verbal instructions. Clerks, alphabetizers, and stampers are paid by the hour for their services. Students majoring in Health, Physical Education, and Recreation, and students from various service organizations on the campus assist without charge, taking care of the other jobs.

When the student or member of the college personnel presents himself for an X-ray, he fills out a card. This card is used by the clerk in making out the state health forms which the technician keeps. After the X-ray is given the person having the X-ray turns the card (which he filled in previously) over to a stamper; it is stamped and given to an alphabetizer. When the X-rays have been completed, student personnel cards are checked against enrollment cards in the dean's office, and a list of students is prepared which includes the names of those who did not take the X-ray. A letter is sent to each of these students informing him of the dates that X-rays are to be given on the Texas State College for Women campus and at a downtown location in the city of Denton, and asking him to avail himself of this last opportunity for a free X-ray.

An arrangement has been made with the X-ray technician to sign student personnel cards when the X-ray unit is on an off-campus location. These cards are checked against the list of students who did not take the X-ray when the unit was on the North Texas campus. Students who do not take advantage of this opportunity are requested to have an X-ray made at their own expense before they will be re-admitted to school. We have had only a very few students who have had to have X-rays made at their own expense.

Students and college personnel who are reported by the State Health Department as having a suspicious pathology are requested by the college physician to come to his office for an interview. An explanation is made of the findings. College personnel are advised to consult their family physician. A 14 inch by 17 inch X-ray is made of students. A radiologist makes a reading of the X-rays and when a positive case is found, the student is advised to see a specialist of his choice. Follow-up continues.

Our people are sold on this program. It is felt that what success we have had has been due to a well-planned educational program prior to the time that the X-ray unit comes to our campus, and to a planned, systematized method of carrying out the program.

TEACHER'S HEALTH INSPECTION

A. O. DEWEESE, M.D., *Director of Health*
Kent State University, Kent, Ohio

Parents at least have always expected the teacher to assume responsibility for the health and safety of their children while under her care. As Health and Educational Administrators, we have been very hesitant and reluctant to place in her hands scientific procedures to aid her in her responsibility.

We did, finally, give her the weight scale and the height-weight chart. If we should discount entirely the scientific results, it otherwise paid off in undreamed dividends. "The Use of a Pair of Scales in Every School Room", a national slogan created by J. F. Rogers, M.D., of the Federal Department of Education, resulted in an almost hysterical interest on the part of pupils, teachers and parents in health and healthful living. The weight scale spearheaded the national interest in School Health. It became the basis of unlimited interesting units and teaching devices in Health Education.

It is true of course that in many of these the scientific accuracies were strained to the breaking point. But the assumption that every underweight child was pre-tubercular spearheaded such an interest in the control of tuberculosis that we soon began to win in that battle. The assumption that the underweight child did not get enough to eat spearheaded our valuable programs of nutrition.

We finally condescended to place the Smellen Eye Chart in the hands of the class room teacher. Again there were many scientific inaccuracies and false assumptions. But again this interesting procedure formed the basis of unlimited units and teaching devices and created a demanding community interest in proper eye care. When we gave the teacher the use of the group and individual whisper hearing test, the results were the same.

We gave the class room teacher the scientific procedure, or some may call it the pseudo-scientific procedure, of morning Health Inspection. We then confused her with our theories as to whether or not it should be a daily routine procedure or a continuous observation throughout the day. It never seemed to occur to us that both might be appropriate. We further warned her that no one except a Physician or Nurse could physically touch the child in such a procedure or use the clinical thermometer.

This procedure with all its imperfections created untold interest and efficiency in Health Education. It also made more and not less demands for Nurses and Physicians and the help of the teacher

has proven to be one of their most valuable adjuncts. More and more are Physicians and Nurses depending upon the intelligent daily activities of the teacher in a sound program of health appraisal. In view of our past experiences with the class room teacher, is it not time to give her more definite and more scientific procedures in helping her play her part in the physical inspection and health appraisal of our children? We suggest the following as a basis of what can be done. We have used it with satisfactory results.

THE TEACHER'S TECHNIQUE OF PHYSICAL INSPECTION

The teacher stands at one side of the room with a good light coming over the right shoulder. Each child in his turn approaches from the opposite side of the room, and the teacher carries out the following steps:

1. Muscle Tone and Graceful Walking.

The child places the body in proper alignment by placing the heels, calves of the legs, hips, shoulders, and back of the head against the wall. Hold this position, looking straight forward and walking tall, the child approaches the teacher. The teacher observes the neuro-muscular control indicated as compared with previous mornings. Lowered vitality from any cause will have affected the muscular tone. The relaxed muscles will have allowed a wide separation of the bones at the various joints which in turn affects the carriage.

2. Enlarged Cervical Glands.

When the child comes before the teacher, she places her hands on the child's neck just below the angles of the lower jaw bones. The tips of the fingers should be over the anterior cervical glands in the valley between the muscles of the neck. The thumbs are free and the hands are left in this position for the next six operations. In a rolling motion of the finger tips, the teacher discerns if there is any enlargement of the cervical glands. Their enlargement indicates infection in the teeth, tonsils, nose, throat, scalp or ears.

3. Nose and Mouth Breathing.

With the hands in the same position, the right thumb is moved against the right nostril so as to compress it. The child is asked to take a deep breath with his mouth tightly closed. The teacher observes if the child breaths freely through the unclosed nostril. The operation is repeated with the left thumb compressing the left nostril. Failure each day to breathe freely through each nostril indicated mouth breathing due to adenoids or nasal mal-formation. An acute cold or congestion in the nose will produce a temporary difficulty in nasal breathing.

4. Examination of the Eyes.

With the hands still in the same position, the thumbs are placed on the lower eye lids just below the eye lashes. Th lower lids are pulled down to expose the conjunctiva. The teacher observes the color of the inside of the lids and the luster and clearness of the whites of the eyes.

A pale color instead of a healthy pink of the inside of the lids indicates anemia or a lack of hemoglobin and red blood cells. If the conjunctiva of the lid each morning is a fiery red, and the blood vessels in the conjunctiva over the eye ball are enlarged so as to be plainly visible, eye strain is indicated. An occasional temporary congestion may indicate an acute cold, or some other beginning acute infectious condition.

The whites of the eyes should be clear, bright and give a reflection similar to that obtained in looking into a pool of clear water. If they are muddy and yellow, lack of proper elimination and dietary errors is indicated. If they are dull and lusterless, lack of sleep or poor metabolism is indicated.

The lower lids are then released and the child is asked to close the eyes. The eye lashes are observed for white granular flakes at their base. Their presence may indicate eye strain. Frequent styes also indicate eye strain.

5. The Throat and Tongue.

Leaving the hands in the same position, the child's head is tilted up; he is asked to open his mouth and attempt to touch the tip of his chin with his tongue. If this does not bring the portion of the pharynx back of the uvula and the tonsils into view, the child is asked to say forcibly "ah".

The teacher observes if the tonsils have been removed; if it is a normal tonsil, smooth, a healthy pink in color and even with the pillars; if it is moderately enlarged, protruding beyond the pillars; or if it is extremely enlarged, touching or almost touching the tonsil on the other side.

The signs that indicate infected tonsils are noted. The teacher looks carefully to see if the tonsils are red, inflamed, deeply and irregularly pitted, covered with white or creamy colored spots, and if pus exudes from the crypts when the child gags, or stretches his mouth open widely.

The teacher also observes if the mucous membrane covering the whole throat is a healthy pink or a fiery red; and if the small grain-like glands in the back of the pharynx are red and enlarged

so as to be plainly visible. Such a condition indicates some acute infection.

6. The tongue.

With the hands in the same position, the tongue is next observed to see if it is clean or coated. A furry white, or yellowish coat indicates faulty elimination, errors in diet, or an infectious condition.

7. Teeth and Gums.

Keeping the hands still in the same position, the thumbs are manipulated without actually placing them in the child's mouth so as to expose the teeth. The teacher observes if there are food particles between the teeth indicating the lack of careful brushing; if any tooth shows a dark, rough spot or pit, or green stains, indicating beginning caries; if there are any broken down cavities; and if the teeth are straight, regular, and occlude properly.

The gums are examined to see if they are spongy, bleed easily, and recede from the teeth exposing the dentine. Gum boils, indicating infection at the root of the tooth will be recognized as inflamed, localized swelling of the gum.

8. Condition of the Scalp.

The finger tips are slipped back to the posterior side of the oblique muscle of the neck and the cervical glands examined. The finger tips are then carried back of the ears to ascertain if the short hairs are stiff and rough. Such a condition would indicate head lice. The head is next pulled forward and the strands of hair are pulled forward and parted to see if dandruff is present.

While the child's head is still bent forward, the thumb is inserted in the collar and the clothing pulled back to expose as much of the skin as possible. The skin is observed for rash or eruptions, and the child who neglects his baths will have a "high water mark". The hair of the head is smoothed down and at the same time the teacher observes if it is soft, smooth and glossy, indicating good nutrition.

9. Nutrition.

The cheeks are pinched to ascertain if the skin has a live rubber-like feel and a soft fatty padding which indicates good nutrition. The teacher also observes if the skin is moist and soft or dry and rough. The color of the cheeks and lips are observed for signs of good or poor nutrition.

10. Thyroid Gland and Ears.

The finger tips explore the neck on each side and just below the Adam's apple or larynx to determine if the thyroid gland is

enlarged. The head is tilted so that the ear can be inspected for any discharge.

11. Cleanliness, Nutrition and Skin Infections.

The clothing about the front of the neck is pulled forward and the skin observed. The hands are then slipped down the child's arms. The large muscles of the arm are squeezed and tested for firmness and elasticity; the hands are pulled forward; the condition of the hands and nails observed, and eruptions and scratch marks between the fingers that might indicate scabies, are looked for.

The child is then passed along the line, unless the examination has shown that he needs some immediate attention. The organization of the school will determine if he is to be sent to the school nurse, school physician, or sent home. In questionable cases, the teacher should use the thermometer.

12. When to Use the Clinical Thermometer.

A thermometer is placed under the child's tongue, and he is seated at the front of the room to await the conclusion of the inspection, if in comparison to his previous examinations, he shows for the first time any of the following symptoms:

1. Eyes red and inflamed.
2. Throat red and inflamed.
3. Nasal obstruction or discharge.
4. Enlarged cervical glands.
5. Unusual paleness or flushing.
6. Dry, hot skin.
7. Listlessness, dropping of eye lids and other signs of poor muscle tone.
8. Dull or glassy reflection from the whites of the eyes.
9. Coated tongue and foul breath.
10. Skin rash.

The thermometer is also used at any time the child complains of headache, backache, nausea, or "simply not feeling well".

After a few mornings of practice, and when the teacher becomes well acquainted with the physical characteristics of her children, the inspection of each child will take but a few minutes. With a word of praise or advice for each child, she can keep the line in almost continuous movement.

TWENTY-SEVENTH ANNUAL MEETING
of the
AMERICAN SCHOOL HEALTH ASSOCIATION
NEW YORK CITY, NOV. 8 THROUGH 13, 1953
HEADQUARTERS, HOTEL NEW YORKER

Sunday, Nov. 8

HEADQUARTERS ROOM, HOTEL NEW YORKER

2:00 to 4:00 P.M. COMMITTEE MEETING
School Health Nurses.
Manual Discussion.
Lyda M. Smiley, P.H.N., Chairman.

4:00 to 6:00 P.M. COMMITTEE MEETING
Mental Hygiene in the Classroom.
Helen Cook Newman, M.D., Chairman.

8:00 to 10:00 P.M. FIRST COUNCIL MEETING
Presiding: Guy N. Magness, M.D., President.

Monday, Nov. 9

BALL ROOM, HOTEL STATLER

9:30 to 11:00 A.M.

First General Session

Presiding: H. F. Kilander, Ph.D., President-elect.

"Enzymic Composition of the Saliva as a Factor in the Development of Dental Caries."
Naomi C. Turner, Ed.M.

"Tuberculosis Case Finding in Schools."
William E. Ayling, M.D.

11:00 A.M. to 12:00 Noon

BUSINESS SESSION

Presiding: Guy N. Magness, M.D., President.

Report of the President.
Report of the Secretary, A. O. DeWeese, M.D.
Reports of Committees:
School Nursing Policies and Practices.
Lyda M. Smiley, P.H.N., Chairman.
Improvement of Status and Functions of School Physicians.
Ruth H. Weaver, M.D., Chairman.
Teacher Training in Health Education.
Howard S. Hoyman, Ph.D., Chairman.
Revision of Constitution and By-Laws.
H. F. Kilander, Ph.D., Chairman.
Election of Council Members.

Monday, Nov. 9

PENN TOP, HOTEL STATLER

2:30 to 4:30 P.M.

Second General Session

Presiding: Guy N. Magness, M.D., President.

"School Health Services and Health Instruction in Great Neck, New York."
John L. Miller, Ed.D.

"Tests of Health Facts and Principles."
H. F. Kilander, Ph.D.

"Conservation of Hearing in Schools."
What has been done and what can and now should be done.
Edmund Prince Fowler, M.D.
"Mental Hygiene in the Classroom."
Helen Cook Newman, M.D.

4:30 to 6:30 P.M.

SECOND COUNCIL MEETING
HEADQUARTERS ROOM, HOTEL NEW YORKER
Presiding: Guy N. Magness, M.D., President.

Monday, Nov. 9
8:30 P.M.

HOTEL NEW YORKER
SECTION MEETINGS

School Health Education Section
Grand Ballroom.
Presiding: Howard S. Hoyman, Ph.D.
"Behavior-Centered Sex Education."
Mabel E. Rugen, Ph.D.
"VD Education in Schools."
Elena M. Sliepcevich, M.P.H.
"Use of Sex Education Films in Schools."
Ross L. Allen, Dr. P.H.

School Health Services Section
North Ballroom.
Presiding: Ruth H. Weaver, M.D.
"The Role of the Advisory Health Council in the School Health Program."
Carl C. Fischer, M.D.
"Public Relations, An Integral Part of a School Health Program."
Abram Cohen, D.D.S.
"Preliminary Report of the Fourth National Conference on Physicians in Schools."
Donald A. Dukelow, M.D.
Fred V. Hein, Ph.D.

School Health Nursing Section
Parlors F. & G.
Presiding: Lyda M. Smiley, P.H.N.
"The Nurse Does Not Work Alone."
Delbert Oberteuffer, Ph.D.
"School Health Nurses Panel Discussion."
"What Nurses Are Doing to Raise the Standards and Status of School Nurses."
Mildred S. Coyle, P.H.N.; Cecilia M. Wandt, R.N.; Florine N. Thomason, R.N.; Mary J. O'Connor, R.N.; Madeline Roessler, P.H.N.

Wednesday, Nov. 11

HEADQUARTERS ROOM, HOTEL NEW YORKER

4:30 to 6:30 P.M.

THIRD COUNCIL MEETING
Presiding: Guy N. Magness, M.D., President.

Thursday, Nov. 12

NORTH BALLROOM, HOTEL NEW YORKER

6:30 P.M. *Annual Banquet*
American School Health Association
Presiding: Guy N. Magness, M.D., President.
Dinner Speaker: C. Robert Koopman, A.B., A.M.
Associate Superintendent
Michigan Department of Public Instruction
"A Vigorous School Health Program as an Educational and Cultural Necessity."

Presentation of the William A. Howe Award to:
Charles C. Wilson, M.D.
Professor of Education and Public Health
Yale University, Department of Public Health
New Haven, Connecticut.
Clair E. Turner, Dr.P.H.
Response by Recipient.
Greetings from the American Public Health Association.
Reginald M. Atwater, M.D.
Executive Secretary, A.P.H.A.
Recognition of:
Past Presidents
Former Recipients of the Howe Award.
Installation of Officers.

JOINT SESSIONS WITH SECTIONS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

Tuesday, November 10, 9:30 A.M.

A.P.H.A. Special Meeting
Title: *Meeting the Health Needs of the Community.*

Tuesday, November 10, 2:30 P.M.

With: Maternal and Child Health, School Health, and Dental Health Sections, A.P.H.A. and the American School Health Association.
Title: *Committee on Child Health — Discussion of Reports on Handicapped Children.*

Wednesday, November 11, 9:30 A.M.

With: Public Health Education and Public Health Nursing Sections, A.P.H.A. and the American School Health Association.
Title: *Health Education with Emphasis on Accident Prevention.*

Wednesday, November 11, 2:30 P.M.

With: Food and Nutrition, Maternal and Child Health and Statistics Sections, A. P. H. A. and the American School Health Association.
Title: *Dietary Intake and Physical Growth.*

Thursday, November 12, 9:30 A.M.

With: Maternal and Child Health, Public Health Nursing, Public Health Education and Health Officers Sections, A.P.H.A. and the American School Health Association.
Title: *Integration of Mental Health in the Health Department.*
With: Dental Health and Medical Care Sections, A.P.H.A. and the American School Health Association.
Title: *Prepayment Dental Care.*

Thursday, November 12, 1:30 to 2:55 P.M.

With: Dental Health, School Health and Public Health Education Sections, A.P.H.A. and the American School Health Association.
Title: *Fluoridation Facts for the Public.*

Friday, November 13, 9:30 A.M.

With: Health Officers, Industrial Hygiene and Public Health Nursing Sections, A.P.H.A. and the American School Health Association.
Title: *Industrial Health and Combination Nursing Services.*

Friday, November 13, 2:30 P.M.

A.P.H.A. Special Meeting
Title: *Meeting the Health Needs of the Community.*

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EDITORIALS

THE ANNUAL MEETING

In this issue of the *Journal* will be found a complete description of the twenty-seventh annual meeting of the American School Health Association. This is *the* opportunity of the year for members of the Association to participate actively in the work of the Governing Council and the many committees whose reports will be presented at this time. The officers of the Association welcome the suggestions and help which members are able to provide.

Attention is called to the business meetings which will be held in the headquarters in the Hotel New Yorker. Special announcements will be made at these meetings of interest to the entire membership. Members are cordially invited to attend.

* * * * *

AMERICAN EDUCATION WEEK

The thirty-third observance of American Education Week takes place this year November 8-14, 1953. The theme is "Good Schools Are Your Responsibility." This project is sponsored by the National Education Association, The American Legion, United States Office of Education, and the National Congress of Parents and Teachers. It deserves the support of every organization and

individual interested in the public schools and children in the United States.

Our public schools are the very basis of our democracy. In them our children are prepared for their responsibilities as citizens. Our civic interest compels us, therefore, to take an active interest in what transpires within their walls. Our basic freedoms must be maintained, we insist. There is no better place to see that this is done than in our public schools.

As part of our treasured heritage, the public schools of this country constitute a bulwark against those enemies of freedom who would exploit any and every weakness that we as a people might offer them. There it is that the oncoming generations of Americans become acquainted with those moral and spiritual foundations on which rests the structure of this country. There it is that we must prepare children for loyal citizenship.

Mastery of the tools of learning—reading, writing, spelling, correct speech, and arithmetic—always has been and always will be a fundamental task in America's schools. As a matter of fact educators in general give more time and attention to the search for better ways of teaching these basic skills than to any other form of school improvement. They deserve the utmost commendation in the improvements that have been made over the past decade.

As a nation we have learned that education is essential to national strength and defense. Educated people make a nation strong. Ignorant people contribute little to its strength. National defense today requires the combined strength and skills of a host of people having highly trained minds and hands. Moreover, they must have strong bodies as well. Without good health our human resources would soon disintegrate. The pages of history are filled with accounts of ancient civilizations which have risen to the heights only to decay and disintegrate as a result of failure to heed the importance of disease and measures aimed at its prevention and control.

As parents and teachers prepare to celebrate American Education Week this year let us as persons actively interested in promoting better understanding of the public schools impress upon them the importance of supporting a good school health program in each community. Team-work between parents, teachers and representatives of the health-medical sciences can only serve to strengthen the health programs already in existence and set a pattern for other schools without such services to follow.

It is our considered opinion that the parents and teachers in most schools are definitely favorable to those health measures which have been demonstrated and proven beneficial to children. But, as so often happens, they are confused by the host of agencies and interests which claim to be interested in the health of their children. It seems to the writer, at least, that we representatives of the health-medical professions, have a lot of explaining to do in order to clarify the aims of the school health program. Let us, therefore, utilize this occasion, American Education Week, to give to the parents and teachers of America a sound concept of the type of health program that is needed to assure adequate health protection for the children attending the public schools.—*E.E.K.*

* * * * *

IMPORTANT MEETING

Dr. Edward J. McCormick of Toledo, O., president of the American Medical Association, heads a list of distinguished authorities scheduled to speak on the care, treatment and training of crippled children at the 1953 annual convention of the National Society for Crippled Children and Adults, Nov. 12-14 at Chicago's Palmer House.

Lawrence J. Linck, executive director of the Easter Seal Society, made the announcement of Dr. McCormick's participation, and pointed out that the noted physician has served four years as counselor to the National Society from the AMA.

Another prominent personality will be Dr. Frances R. Horwich, Chicago, leading child development authority who, as "Miss Frances," has made the "Ding Dong School" a nationally famous program on television. Dr. Horwich will be principal speaker at the annual parents institute.

Dr. Henry H. Kessler, medical director of the Kessler Institute for Rehabilitation, West Orange, N. J., and counselor in rehabilitation to the National Society, will head up a panel on rehabilitation at the convention.

In addition to other outstanding speakers, Mr. Linck said that the convention program will include general sessions, seminars, exhibits, demonstrations, workshops, social events and other features packed with information and inspiration to appeal to all rehabilitation workers, volunteers and parents of crippled children who will attend the convention from across the nation.

Dr. William T. Sanger, president of the National Society, will preside at this year's convention marking the Society's 30th annual meeting and 32nd year of service to the nation's handicapped.

Architecture and its adaptations to meet the needs of the crippled will be featured for the first time at this year's three-day meeting.

A traditional convention feature, a panel of distinguished persons who have outwitted their handicaps to become productive and successful members of society, is also planned for the meeting.

ABSTRACTS AND NOTES

Growth and Development in Schools*—It is clear that measurements of physical growth must be compared to standards of some sort in order to interpret their significance. The realization that each child grows along his own pathway to his own unique adulthood as well as the "concern with the doing and becoming of the organism more than with its status on any given day," has lead to the development of technics which attempt to record the child's growth progress and measure it against itself as well as against that of others.

Stuart and Meredith have proposed that a series of six measurements be made periodically including chest and calf girth, hip width, and subcutaneous tissue, as well as height and weight. These are to be matched against age-specific percentiles with the object not only of placing the child in relation to other children at this stage of growth, but also of comparing him to himself by comparing the percentile placements at different stages of his own progress.

Unfortunately, no concrete evidence exists that could administratively justify a school health service in undertaking the extended effort and expense required to make such measurements routinely. The recording of the measurements is laborious and their interpretations cumbersome. Measuring physical growth on this scale must be considered a luxury service even though scientifically accurate.

Height and weight changes are the most consistent outer changes of body growth and have been studied the most intensively. They are simple to make and of interest to the children whose growth progress they measure. Graphic methods of portrayal facilitate their interpretation.

Two principal graphic methods are in current use. Meredith has prepared a "Physical Growth Record" with separate height and weight graphs plotted by age for boys and girls. This may be obtained through the American Medical Association. The record may be reproduced by schools who request permission to do so. Five continuous normative zones are blocked out on the graphs. Zone location for height and weight may describe inherent physique or a bodily deviation due to other causes. The relationship of the individual's plotted curve for height or weight to his normative

*Yankauer, Alfred, M.D., M.P.H.: Use and Abuse of Newer Knowledge of Growth and Development in Schools. *Pediatrics.* Vol. 10 (November, 1952) 627-633.

curve over a period of time affords some information about the satisfactoriness of height and weight growth. The data on which these graphs were based was obtained from measurements of white children of northwest European ancestry living under better than average conditions over a period from 1930-1945.

Wetzel has devised and copyrighted a "Grid for Evaluating Physical Fitness." This is sold to schools and other customers by the Newspaper Enterprise Association Inc. of Cleveland, Ohio, the "World's Greatest Newspaper Feature Service." The grid consists of two graphic sections. In one section height on a horizontal arithmetic scale is plotted against weight on a vertical logarithmetic scale. This section is traversed obliquely by a set of "channel lines" intended to describe physique. A set of "iso-developmental lines," intended to describe body size cuts across the channel lines at regular intervals. The second section plots the body size obtained from the first section against chronological age and is obliquely traversed by "auxodrome" lines intended to describe schedules of total development. Channel of location in the first section may describe physique or bodily deviations due to other causes. The path of the plotted curve in relation to channel lines in the first section and to auxodrome lines in the second section affords some information about the satisfactoriness of total growth. The slope of the channel lines and "auxodrome" lines and the calibration of the "iso-developmental lines" have been derived from mathematical formulae based on the characteristics of the growth process in which various sets of measurements of human growth were substituted to derive the specific mathematical constants. Because the combination of two measurements (height and weight) is related mathematically the grid describes the mass phenomenon of body growth with constancy. However, it fails to distinguish between the bone, muscle, fluid or fat which may make up differing proportions of the mass. These qualities can only be evaluated by some method such as that proposed by Stuart and Meredith or by even more complex technics.

School health services are constantly seeking efficient and economical methods to differentiate between the healthy and the unhealthy among the mass of children they serve. The Wetzel grid has been proposed as a simple method of accomplishing this goal with a high degree of accuracy. It is claimed that children whose measurements place them in lower physique channels or lower auxodromes and children whose plotted lines drift from one channel or auxodrome to another over a period of time belong in the unhealthy

group whereas children whose plotted lines follow a consistent channel and auxodrome can be considered healthy.

It is assumed that the consistent presence of a child in any physique channel except the extreme ones indicates that his growth and nutrition is satisfactory. The statistical probability of this assumption being true in any given case has not been computed. Perhaps it is fairly high, but it is certainly not 100%. Even more important is the really great danger inherent in assuming that all children who stay in their channels of growth are necessarily free from illness or disability. Major physical or mental disease must certainly exist without affecting the physical growth process as expressed by the grid. This has been demonstrated in the case of congenital heart disease. It must be true in other conditions as well.

Studies are badly needed at the present time comparable to those reported by Souther, Eliot and Jenss in 1939 but on a more extended scale. These investigators compared four indices used in judging physical fitness against each other and against the judgment of a physician. Results were disappointing. If we are ever to improve the efficiency and quality of school health services we must have objective evidence to go on rather than data accumulated by individuals desiring to sell a particular product or idea. —*E. E. K.*

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Pennsylvania School Health Program—The Pennsylvania school health program reaches into all homes of the Commonwealth having children of school age. This program utilizes the part-time services of over 1,880 physicians, 1,000 dentists, 1,100 full or part-time school nurses, and indirectly the services of the 300 public health nurses employed by the Department of Health.

In the school year 1951-'52 there were 931,355 pupils examined with 35 per cent reported to have remediable medical defects. The correction of these defects was effected through the follow-up service of the public health and school nurses.

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COMMITTEE ON HEALTH EDUCATION IN ELEMENTARY AND SECONDARY SCHOOLS

Mr. R. W. Kireilis, Head of the Department of Health, Physical Education and Recreation, Texas Technological College, Lubbock, Texas, recently accepted membership on the Committee on Health Education in Elementary and Secondary Schools.

REVIEWS

"Individual and Community Health." *William W. Stiles, M.D., M.P.H.* The Blakiston Company, New York, 1953. 492 p. Price $6.00

This text has an interest-arousing approach that makes it different from the usual hygiene text.

It tries to get first things first, discussing the need of control, accidents and violence, wound infection, contact and airborne diseases, and the general measures of control. These are followed by chapters related to food and nutrition, food sanitation, intestinal infections, and information on water, sewage, and flies as agents in disease spreading. There is material on disease spread by the arthropods and animals.

A chapter on Environmental and Occupational Disease sketches the essentials of industrial hygiene.

Sexual problems, maternal and child care, disorders of the nervous system, problems relating to medical care, and the challenge to control disease are discussed.

This is an excellent text with a new approach. Adequately and interestingly illustrated by graphs, line drawings, and photographs, with reading lists, at the end of each chapter, bearing titles and the names of authors that we seldom see in lists of texts concerned with this area. It fills a great need.

An appendix presents a large number of school camp blanks of great value to the administrator. — *C. H. Keene*

* * * * *

"Education Through School Camping." *Helen Manley and M. F. Drury.* C. V. Mosby Company, St. Louis, 1952. 348 p. Price $4.50.

This text launches into a comparatively new area of public school education. While "camping" has been a necessity and a recreation for centuries, its use as a process in official education is comparatively new. As cities become larger, a rapidly increasing proportion of our children and youth have only the pavement as an area of outdoor education.

Recreation as an entity in city, county, and state parks is well recognized, but recreation combined with out of doors education—fostered, financed, and supervised by educational authority—is a newcomer to our curricula.

This text presents much valuable information for teachers, supervisors, and superintendents. The place of Camping in education; of Planning, Administration, Leadership, Program and Camp

Curricula at the elementary and secondary school level are discussed and detailed.

Each chapter is followed by a worthwhile Bibliography, and an appendix of school camping forms gives quick and accessible help to camp administrators. — *Charles H. Keene*

* * * * *

"School Health Problems." *Chenoweth, Lawrence B. and Selkirk, Theodore K., Fourth Edition,* 1953. Appleton Century-Crofts, Inc. 446 p. Price $4.00.

Designed basically for use of students of education, teachers in service, and others interested in the general nature of health problems in schools.

The revision includes changes to bring material up to date and new chapters have been added.

This is a text with broad coverage, badly needed as an addition to teacher training source material. — *C. H. Keene*

* * * * *

School Nursing Policies and Practices Committee

The following nurses have agreed to serve on the committee on School Nursing Policies and Practices:

Arizona—Jeannette H. Banker, P.H.N.; Chairman School Nurse Conference Group, Arizona State Nurses' Association, Inc., 522 W. McDowell, Apt. 3, Phoenix, Arizon.

Colorado—Gertrude Cromwell, Supervisor of Nursing, Denver Public Schools, 414 Fourteenth Street, Denver 2, Colorado.

Connecticut—Mrs. Cecelia Wandt, Manchester High School, 170 Chestnut Street, Manchester, Connecticut.

Illinois—Mrs. Hazel D. O'Neal, Health Coordinator, Office of the Superintendent of Public Instruction, State of Illinois, Springfield, Illinois.

Kansas—Mrs. A. B. Bruce, Chairman, School Nursing Section, Kansas State Nurses' Association, 6142 Catalina, Mission, Kansas.

Massachusetts—Miss Grace L. Crowe, R.N., President School Nurses' Association of Massachusetts, 2 Ferry Street, Malden, Masachusetts.

New Jersey—Mary B. Hulsizer, Supervisor School Nursing and Child Care, Board of Education, Newark 2, New Jersey.

New Mexico—Miss Lucille Harmon, Chairman of the School Nurse Section, New Mexico Education Association, Los Alamos, New Mexico.

Rhode Island—Mrs. Mary J. O'Connor, Chairman of School Nurse Branch, Rhode Island State Organization for Public Health Nursing, 122 Porter Street, Providence 5, Rhode Island.

Vermont—Mrs. Arena Damon, President Vermont School Nurses' Association, 10 Church Avenue, Bellows Falls, Vermont.

Virginia—Miss Florine N. Thomason, Chief Nurse, Medical Department, 407 North Twelfth Street, Richmond 19, Virginia.

Holdovers from 1952:

Illinois—Mrs. Madeline Roessler, Chicago Public Schools, Chicago, Illinois.

Pennsylvania—Miss Mildred S. Coyle, School Nursing Adviser, Commonwealth of Pennsylvania, Department of Public Instruction, Box 911, Harrisburg, Pennsylvania.

South Dakota—Miss Nell Peterson, 622 South Minnesota Avenue, Sioux Falls, South Dakota.

Texas—Mrs. Tempest Ray, 2504 Tyler Street, Amarillo, Texas.

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